the 1995 Australian National Nutrition Survey (NNS) conducted by Cobiac *et al.* in 2003. We therefore aim to examine the added sugars intake of participants of the 2011-13 National Nutrition and Physical Activity Survey (NNPAS), and to identify the main food sources contributing to their added sugars intake.
Methods: Participants, aged 2–71+ years, who provided one 24 hour recall in the NNPAS were included. A final dataset of 8332 participants was analysed. Added sugar content of each food item was assigned using a previously published method. Food groups contributing to the added sugars intake were described by age group and sex.
Results: The weighted mean daily added sugars intake of the participants were 60.3 (SD 52.6) g/d. Sugar sweetened beverages accounted for the greatest proportion of the added sugars intake of the Australian population, followed by sugar and spreads and cake and biscuit.
Conclusions: The Australian population were having more added sugars than recommendation. Efforts on reducing added sugars intake should be focused on these energy dense nutrient poor foods.
Funding source(s): N/A.

NUTRITIONAL ROLE OF CELLULOSE BEYOND FAECAL BULKING

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Background/Aims: Cellulosic materials are important sources of dietary fibre and are abundant in whole grains, legumes, fruits and vegetables. Apart from its nutritional importance as a bulking agent, we report additional roles of cellulose in human nutrition by limiting digestive enzyme action either by binding of enzymes on cellulose surfaces or providing a physical barrier towards the hydrolysis of entrapped macronutrients.
Methods: (i) The kinetics of inhibition of alpha amylase activity against maize starch was determined varying cellulose concentration. (ii) Cotyledon cells from legumes were isolated without using solvents, acids or bases. The diffusion of enzyme inside the cell was monitored using fluorescence labelled alpha-amylase.
Results: Kinetic analyses of alpha amylase hydrolysing maize starch in the presence of cellulose as an inhibitor using Dixon and Direct Linear plots showed marked inhibition of mixed type. The dissociation constant of the enzyme/cellulose complex was found to be 3 mg/mL. In isolated legume cells, fluorescent labelled enzymes accumulated at the outer periphery of cells and were absent inside the cells, suggesting both a binding and barrier role for cellulose. Upon removal of cellulosic physical barrier, e.g. by grinding, the rate of hydrolysis of starch in cells of legumes increased by almost 20 times.
Conclusions: The study suggests that cellulosic materials have the potential to reduce the glycaemic responses form starchy foods either by inhibiting enzyme activity through binding or providing the physical barrier limiting the access of substrate to enzymes in plant-derived foods
Funding source(s): ARC, University of Queensland.

CONCURRENT SESSION 15: MINERALS AND TRACE ELEMENTS. GENERIC LABEL VERSUS POPULAR BRANDED PRODUCTS: HOW DOES THE SODIUM STACK-UP?

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Background/Aims: Generic labelled foods are cheaper than equivalent branded products; however, there is a perception that generic foods are of poorer quality than branded, both in terms of nutritional value and taste. We compared the sodium content listed on the food packaging for various generic and branded products.
Methods: Products selected were processed foods most commonly consumed in a Tasmanian population study. Sodium content information was collected for generic foods available in three major supermarkets; Coles, Woolworths and IGA, and the major brand which occupied the greatest shelf space in each store. For each food the difference between the lowest and highest sodium content among brands was calculated as a percentage.
Results: For 21 out of 36 foods assessed, generic products (14 Woolworths, 4 Coles, 3 IGA) had the lowest sodium content. For tinned vegetables, the difference ranged from 43% (beetroot; 210 mg/100 g branded *vs.* 300 mg/100 g generic) to 2090% (tomato paste; 21 mg/100 g generic *vs.* 460 mg/100g branded). For grain foods the differences ranged from 4% (multigrain bread; 386 mg/100 g generic *vs.* 400 mg/100 g branded) to 29.9 $\times$ 10^3% (Spaghetti pasta; 0.1 mg/100 g *vs.* 30 mg/100 g both branded products). The difference in meat/fish products ranged from 44% (frozen meat pie; 335 mg/100 g generic *vs.* 481 mg/100 g branded) to 149% (tinned tuna; 193 mg/100 g generic *vs.* 480 mg/100 g branded).
Conclusions: Fifty-nine percent generic products had lower sodium (healthier) than equivalent branded products. This confirms that health labelling must be for individual brands.
Funding source(s): Tasmanian Medicare Local.

SOURCES OF SODIUM AT MEAL AND NON-MEAL TIME EATING OCCASIONS IN ADULTS: SECONDARY ANALYSIS OF AUSTRALIAN HEALTH SURVEY DATA

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Background/Aims: High sodium intake contributes to high blood pressure and poor cardiovascular health. Food and beverages contributing to dietary sodium intake at individual eating occasions are not well reported. The purpose of this study is to assess the dietary intake and food sources of sodium at meal and non-meal eating occasions in Australian adults.
Methods: The Australian Health Survey collected dietary information from Australian adults (18-85 years) in 2011-12 using 24-hour dietary recall methodology. Males and females (n = 7818, 52% female) were included in the analysis that had complete data for height and weight. Eating occasions were classified as meal time [Breakfast (includes breakfast and brunch), Lunch and Dinner] and non-meal time eating occasions. Discretionary sodium added to foods during preparation or at the table was not included.
Results: Mixed dishes where cereal is the major ingredient contributed the greatest proportion of total daily sodium intake (14.6% of total daily sodium intake). The eating occasion contributing the greatest proportion sodium on the day of the survey was dinner (33% of total daily sodium intake), followed by lunch (31%), snacks (19%) and breakfast (16%). The highest sodium density was observed at lunch (379 mg/MJ). The greatest source of sodium at non-meal times were cakes, muffins, scones and cake-type desserts.
Conclusions: Reformulation of processed foods for reduction of sodium consumption in Australians remains an important objective. Targeting food consumption at non-meal time eating occasions and foods consumed at this time may be a useful strategy in approaching reduction in individual dietary sodium intake.
Funding source(s): N/A.

ACCEPTABILITY OF REDUCED SALT BREAD IN A REMOTE INDIGENOUS AUSTRALIAN COMMUNITY

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Background/Aims: Bread is one of the biggest contributors of dietary salt in remote Indigenous communities, providing approximately 25% of all salt consumed. This study aimed to assess acceptability of reduced-sodium (salt) bread in a remote Indigenous community.
Methods: Two studies were conducted with convenience samples from a remote Indigenous community in the Northern Territory of Australia: 1) White-bread testing (WtBT; n = 62) and 2) Wholemeal-bread testing (WmBT; n = 72). For both WtBT and WmBT, three breads were tested; one regular-sodium (~400 mg/100 g) and two reduced-sodium (~350 mg/100 g; ~300 mg/100 g) variants. Triangle test was used to examine whether

participants could distinguish between: standard versus 350 mg or standard versus 300mg sodium breads (analysed using binomial probability). Participants also tasted all three breads in a random, and balanced, order and rated their liking of sensory characteristics (appearance, colour, flavour, sweetness, saltiness, texture, softness, overall liking); differences between breads were analysed using ANOVA with $p < 0.05$ set for significance.
Results: Participants were unable to detect a difference between standard and reduced-salt breads (300 mg or 350 mg/100 g) in both WtBT and WmBT ($p > 0.05$). There were no significant differences in sensory characteristics between standard, 300mg or 350mg sodium breads in WtBT or WmBT ($p > 0.05$).
Conclusions: In a sample of Indigenous Australians living in a remote community, 25% salt reduction in bread was not detected, and no effects on liking were observed. Salt reduction in bread could be an important strategy to reduce the excess salt intake observed in remote Indigenous communities
Funding source(s): National Heart Foundation Future Leader Fellowship; Goodman Fielder.

TRENDS IN DIETARY SODIUM INTAKE IN AUSTRALIAN CHILDREN AND ADOLESCENTS FROM 2007 TO 2011–13

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Background/Aims: The 2009 Food and Health Dialogue set maximum sodium levels for a range of food product groups. It is unclear if these initiatives have reduced population sodium intake. The aim of this study was to assess changes in sodium intake from food sources in Australian children aged 2-16 years from 2007 to 2011-13.
Methods: We compared data from the 2007 Children's Nutrition and Physical Activity Survey ($n = 4487$) and the 2011-13 National Nutrition and Physical Activity Survey ($n = 2548$). Intakes of energy and sodium were assessed via one 24-hr dietary recall and under-reporters were excluded ($n = 330$). Statistical analysis accounted for population weightings and the complex survey design.
Results: Mean sodium intake of children aged 2-8 years was 2042 (95%CI: 2002, 2083) mg/d in 2007 and 1943 (1870, 2016) mg/d in 2011-13; 9-16 years was 2928 (2850, 3007) mg/d in 2007 and 2717 (2607, 2827) mg/d in 2011-13. The sodium density of the diet in children aged 2-8 years was 289 (283, 294) mg/MJ in 2007 and 284 (275, 293) mg/MJ in 2011-13; 9-16 years was 302 (296, 308) mg/MJ in 2007 and 290 (281, 300) mg/MJ.
Conclusions: There was a 7.2% reduction in dietary sodium intake between 2007 to 2011-13 in 9-16 year olds, and no fall in those aged 2-8 years. However there was no indication of a change in sodium density. This apparent reduction of sodium intake in older children requires further exploration of the potential changes in sodium content of main food sources of sodium.
Funding source(s): NHF of Australia.

THE ASSOCIATION BETWEEN 24-HOUR URINARY SODIUM AND IODINE EXCRETION IN A SAMPLE OF VICTORIAN SCHOOL-AGED CHILDREN

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Background/Aims: A reduction in the salt content of foods such as bread continues to be the main focus for sodium reduction strategies. As mandatory fortification of bread with iodised salt is the main vehicle for iodine fortification in Australia, there is concern that reducing the salt content of bread may adversely affect iodine status.
We aimed to assess i) the relationship between 24-hour urinary sodium (UrNa) and urinary iodine excretion (UIE) and ii) the relationship between bread consumption and UIE in Victorian schoolchildren.
Methods: A cross-sectional study of 5-12 year old Victorian primary school children. Sodium and UIE were assessed using 24-hour urine samples. Bread intake (g/d) was determined via 24-hour dietary recall, completed in a sub-sample of children aged ≥8 years.
Results: Valid 24-hour urine samples were provided by 650 children [$n = 359$ boys, mean (SD) age 9.3(1.8) years] and 448 provided dietary recalls. Mean UrNa and UIE were 104 (48) mmol/24 hr and 104 (54) μg/24 hr, respectively. UrNa was positively associated with UIE ($r = 0.36$, $p < 0.001$). In the sub-sample of children with dietary recalls, 86% ($n = 386$) reported consuming bread and mean consumption was 83.6 (62.1) g/day. There was no association between bread intake and UIE ($r = 0.01$, $p = 0.82$).
Conclusions: UrNa and UIE were significantly correlated, indicating some common dietary sources of iodine and sodium. No association between bread (containing iodised salt) consumption and UIE was evident in this population, which may indicate a higher contribution of other foods to iodine intake.
Funding source(s): Australian Postgraduate Award, NHF of Australia, Helen MacPherson Smith Trust Fund.

THE INFLUENCE OF SOCIOECONOMIC STATUS ON SODIUM INTAKE IN A SAMPLE OF AUSTRALIAN SCHOOL CHILDREN

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Background/Aims: Excessive dietary salt in childhood has impacts on blood pressure and the establishment of taste preferences. This study explores the association between socioeconomic status (SES) and salt intake assessed by 24-hr urinary sodium excretion in Australian children.
Methods: Cross-sectional study conducted with a convenience sample of children aged 4-12 years, in 42 Victorian primary schools. Total sodium intake was determined using a single 24-hr urine sample. SES was defined by parent education level, and split into three levels. Between group differences were determined using linear regression with cluster robust standard errors to account for school clusters.
Results: Valid urine results and SES data were available for 569 children with mean (SD) age of 9.2 (1.9) years with a mean ± SEM sodium excretion of 102 ± 2.2 mmol/d. For low ($n = 137$), medium ($n = 85$) and high ($n = 347$) SES groups, sodium excretion was 110 ± 4.0, 100 ± 3.6 and 99 ± 2.7 mmol/d respectively. Sodium excretion differed across SES groups ($p < 0.05$). Further adjustment for age, gender and day type of the urine collection did not change this result.
Conclusions: Children in lower SES families have an 11% higher mean intake of salt compared to those in higher SES groups. Given the lifelong health impacts of higher salt intake, this should be considered in the development of future public health interventions.
Funding source(s): NHF.

SALT REDUCTION IN AUSTRALIA AND NEW ZEALAND: HOW DO WE COMPARE WITH THE REST OF THE WORLD?

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Background/Aims: Excess salt intake is a major determinant of raised blood pressure and cardiovascular risk, responsible for an estimated 1 in 10 cardiovascular deaths worldwide. In 2013, all World Health Organization countries committed to achieving a 30% relative reduction in mean population salt intake by 2025. The study reviews progress in Australia and New Zealand compared to other countries.
Methods: Salt reduction initiatives were identified from a systematic search of published and grey literature, accompanied by questionnaires sent to country program leaders. The programs in Australia and New Zealand were compared against other countries based on strategic characteristics extracted from a pre-defined framework.
Results: Neither Australia or New Zealand currently has a nationally coordinated government-led salt reduction strategy. However, both